

### REMARKS

The Examiner has objected to the abstract of the disclosure as being too long and requires correction under MPEP 608.01(b).

It is noted by Applicants that proper language and format for an abstract of the disclosure should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. Legal phraseology used in patent claims, such as "means" and "said", should be avoided and the abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

Applicants, in accordance with the Examiner's suggestion, have submitted an amended abstract of the disclosure.

The Examiner has rejected claims 1, 10, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maveddat et al (6,070,073) in view of Rydbeck et al (5,918,176).

The Examiner states with regard to claim 1, Maveddat discloses a mobile satellite telecommunications system, directing Applicants' attention to col. 1, lines 7-35 and col. 5, lines 7-12, wherein, according to the Examiner, Maveddat discloses at least one user terminal, at least one satellite in earth orbit, and at least one gateway bidirectionally coupled to a data communications network, directing Applicants' attention to col. 5, lines 7-47. Further, the Examiner contends Maveddat discloses said user terminal comprising a controller responsive to at least one criterion having been met for activating a message for informing a user of a potential for reduced user terminal performance, directing Applicants' attention to col. 8, lines 21-65.

However, the Examiner admits that Maveddat does not specifically disclose activating an indicator but that Rydbeck teaches activating an indicator, directing Applicants' attention to col. 7, lines 35-67 and col. 8, lines 15-40.

The Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Maveddat, and have activate an indicator, as taught by Rydbeck, thus allowing the user to be notified of low link margin as discussed by Rydbeck at col. 1, lines 18-44 and col. 1, lines 60-67.

Applicants respectfully submit that in Maveddat '073 there is disclosed a communication system and methodology implemented to anticipate periodic or predictable disruptions of communications in a satellite communication network. The communication system and methodology then compensate for this disruption in an appropriate manner. Such prediction and compensation actions are performed for a selected group of subscribers ("premium" subscribers) who wish to originate or receive telephone calls during

the period of time that the outage or disruption occurs. To compensate for such predictable outages, the communication network takes advantage of the multiple gateways typically implemented within mobile satellite communicate networks. Rather than using the multiple gateways for redundancy, the communication network and methodology recognize that the multiple gateways may also be used for the alternate routing of telephone calls, particularly during a period of time in which the outage occurs. Through this methodology, a "virtual routing" operation may be executed.

Although Applicants acknowledge that in Maveddat at col. 1, lines 7-35 and accompanying Fig. 1 there is illustrated a user terminal, a satellite in earth orbit and at least one gateway which is apparently bidirectionally coupled to the satellite, Applicants do not agree that the gateway is bidirectionally coupled to a data communications network as required by the instant claims and the disclosure at col. 5, lines 7-47 does little to cure this deficiency. At col. 5, lines 7-47 there is a wide ranging discussion of a simplified version of the communication system of Fig. 1 which is recited to be prior art and the focus of this disclosure is compensation for communication disruptions for which the present invention reroutes a call from a disrupted gateway to another gateway which is not disrupted, as seen at col. 5, lines 31 et seq. Furthermore, Applicants respectfully contend that at col. 8, lines 21-65 relied upon by the Examiner there is a broad ranging discussion of a methodology to notify subscribers that an outage will occur in the near future as seen at col. 8, lines 25 et seq. Therein it is stated "Again, as previously described, such outages are typically predictable. For example, in a GEO satellite system, a sun transit interruption occurs regularly once a week from two to four minutes.....

"In one embodiment of the present invention, an intelligent peripheral, such as intelligent peripheral 116 of communication network 100, determines when the event will occur using an automatic forecasting algorithm.....By utilizing satellite 102 to connect the control information between MSC A 110 and MSC B 104, this roaming operation is effectively performed in an efficient manner that allows users to maintain their communications without interruptions." (Line 60 et seq. of col. 8.)

Applicants respectfully submit that conspicuously absent from these recited passages relied upon by the Examiner is the requirement that a controller be responsive to at least one criterion having been met for activating a message for informing a user of a potential for reduced user terminal performance as contended by the Examiner, directing Applicants' attention to col. 8, lines 21-65.

Applicants respectfully submit that in Rydbeck '718 there is disclosed a communication system including a plurality of mobile radio telephones, a control unit for transmitting a signaling message to an intended mobile radio telephone, and at least one paging channel through which the control unit is able to transmit the signaling message at

varying margin levels. The control unit initially transmits the signaling message at a specified margin level for a predetermined number of attempts and progressively continues to transmit the signaling message at margin levels greater than the specified margin level until the intended mobile radio telephone receives the signaling message. The mobile radio telephones are able to synchronize to the paging channel, monitor messages on the paging channel when the mobile radio telephone is synchronized thereto, receive messages on the synchronized paging channel, and provide a signal to alert a user of the mobile radio telephone that a message is received through the paging channel at a margin level greater than the specified margin level. The alert signal is provided in the form of a visual indicator, an audible indicator, and/or a vibration mechanism.

At col. 7, lines 35-67 of Rydbeck there is a broad ranging discussion of mobile satellite phone 16 determining whether any messages are received from alternative paging channel 22 (see decision block 61).....If mobile satellite phone 16 finds that messages are received on alternative paging channel 22, it then sends a signal 50 to the user of mobile satellite phone 16 which alerts him to this fact....Of course, it will be understood that the user may choose which type(s) of alerting signal to be received through signal 50 and transducer driver 52 by programming signal processing circuit 30 with keypad 40 (col. 7, lines 62 et seq.).

Likewise, at col. 8, lines 15-40 of Rydbeck there is a broad ranging further discussion of "According to mobile satellite phone 16 and the process implemented thereby, a user thereof is alerted when messages are received on a paging channel other than normal paging channel 20.....Also, alternative paging channels having a higher margin level than normal paging channel 20, but less than the specified margin level, may initiate transmission of acknowledgment signal 26." (Col. 8, lines 36 et seq.)

Applicants respectfully submit that the recited passages of Maveddat, further supplemented by the recited passages of Rydbeck, do not suggest, teach or imply said user terminal comprising a controller responsive to at least one criterion having been met for activating an indicator for informing a user of a potential for reduced user terminal performance as contended by the Examiner.

Therefore, Applicants respectfully submit that it would not have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Maveddat and have activate an indicator as taught by Rydbeck, thus allowing the user to be notified of low link margin as discussed by Rydbeck at col. 1, lines 18-44 and col. 1, lines 60-67.

Applicants respectfully submit that the aforementioned recitations at col. 1, lines 18-44 and col. 1, lines 60-67 merely relate to a mobile radio telephone which is signaled by the system that a message is pending for reception as seen at lines 18 et seq. Further, at line

33 et seq. "While it is possible for a paging channel to be provided which has a higher than normal margin level, this generally stems from an increase in power which consumes valuable resources of the satellite communication system." Further, at line 60 et seq. "In light of the foregoing, a primary objective of the present invention is to provide a mobile radio telephone which generates a signal to alert the user thereof when a message is received other than through a normal paging channel." These recitations, as well as those recited above, do little if anything to provide the indicator as described in element 4 of claim 1. Furthermore, it is not at all apparent to Applicants nor is there any recited incentive in either of Maveddat or Rydbeck to combine these disclosures in the manner suggested by the Examiner. Maveddat on its face is directed to a communication system and method for notification and call routing in a mobile satellite network, while Rydbeck is directed to an apparatus and method for transmitting and receiving a signaling message in a communication system. Applicants respectfully submit that both in the disclosures and the accompanying drawings of both Maveddat and Rydbeck there is no commonality, no less any suggestion, to combine the two systems as disclosed in any manner. However, as recited above, Applicants respectfully contend that the combination, however improper, is insufficient to teach, suggest or imply the elements of claim 1 especially element 4 as recited above.

The Examiner states with regard to claim 10, Maveddat discloses a mobile satellite telecommunications system, directing Applicants' attention to col. 1, lines 7-35 and col. 5, lines 7-12. According to the Examiner, Maveddat discloses at least one user terminal, at least one satellite in earth orbit, and at least one gateway bidirectionally coupled to a data communications network (directing Applicants' attention to col. 5, lines 7-47). The Examiner further contends that Maveddat discloses said user terminal comprising a controller responsive to a receipt of a message from said gateway, indicating that at least one criterion has been met, for activating a message for informing a user of a potential for reduced user terminal performance, directing Applicants' attention to col. 8, lines 21-65.

The Examiner does admit that Maveddat does not specifically disclose activating an indicator as in the case of claim 1 and uses the same argument that Rydbeck teaches activating an indicator, directing Applicants' attention to col. 7, lines 35-67 and col. 8, lines 15-40.

Applicants respectfully direct the Examiner's attention to the observations and arguments made with respect to claim 1 regarding Maveddat col. 1, lines 7-35 and col. 5, lines 7-12, col. 5, lines 7-47 and col. 8, lines 21-65, and hereby respectfully incorporate said remarks and observations by reference.

Likewise, Applicants respectfully incorporate by reference Applicants' comments and arguments directed to claim 1 with regard to col. 7, lines 35-67 and col. 8, lines 15-40.

For these reasons, Applicants respectfully submit that it would not have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Maveddat, as fully explained by incorporating by reference the arguments regarding claim 1, and have activate an indicator, as taught by Rydbeck, thus allowing the user to be notified of low link margin, as discussed by Rydbeck, citing col. 1, lines 18-44 and col. 1, lines 60-67 which likewise were discussed with regard to claim 1, which discussions are likewise incorporated by reference.

The Examiner states with regard to claim 19, Maveddat discloses a method for operating a mobile satellite telecommunications system, directing Applicants' attention to col. 1, lines 7-35 and col. 5, lines 7-12. Further, the Examiner contends that Maveddat discloses providing at least one user terminal, at least one satellite in earth orbit, and at least one gateway bidirectionally coupled to a data communications network, directing Applicants' attention to col. 5, lines 7-47. The Examiner goes on to say that Maveddat discloses determining that at least one criterion has been met; and activating a message on said user terminal for informing a user of a potential for reduced user terminal communication, directing Applicants' attention to col. 8, lines 21-65.

The Examiner again admits that Maveddat does not specifically disclose activating an indicator but that Rydbeck teaches activating an indicator, directing Applicants' attention to col. 7, lines 35-67 and col. 8, lines 15-40.

Applicants respectfully submit that they have dealt with all of the recited passages of Maveddat, to wit, col. 1, lines 7-35, col. 5, lines 7-12, col. 5, lines 7-47, col. 8, lines 21-65, and Rydbeck col. 7, lines 35-67 and col. 8, lines 15-40 above in a discussion with regard to the patentable distinctions drawn over these recited passages with regard to claim 1, which remarks and arguments are equally applicable to claim 19 and are hereby respectfully incorporated by reference.

Applicants therefore do not agree that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Maveddat, and have activate an indicator, as taught by Rydbeck, thus allowing the user to be notified of low link margin, as discussed by Rydbeck at col. 1, lines 18-44 and col. 1, lines 60-67.

The Examiner as rejected claims 2-6, 8-9, 11-15, 17-18, 20-24, 26-31 under 35 U.S.C. 103(a) as being unpatentable over Maveddat in view of Rydbeck as applied to claims 1, 10 and 19 above, and further in view of Arrington et al (5,918,176) and Redden et al (5,490,087).

The Examiner states considering claims 2-6, 8-9, 11-15, 17-18, 20-24, 26-31, Maveddat discloses the system and method, as modified by Rydbeck above, wherein a possible outage message and indicator given to the user terminal where the terminal is covered by several satellites and the link margin of the satellites falls low. The Examiner

further submits that Maveddat and Rydbeck do not specifically disclose a several coverage satellite system, where diversity transmission from the satellites such that the link margin is based on the diversity transmission. The Examiner contends that Arrington shows coverage by several satellites and a report of link margin, directing Applicants' attention to col. 5, lines 30-67, col. 6, lines 55-67, and col. 8, lines 1-15. Further, the Examiner contends that Redden discloses diversity transmission and an outage report, directing Applicants' attention to col. 15, lines 7-47 and col. 9, lines 35-55.

The Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Maveddat and Rydbeck, and have several coverage satellite system, where diversity transmission from the satellites such that the link margin is based on the diversity transmission, and link outage report, as taught by Arrington and Redden, thus allowing the reporting be done for mobiles in fading environments.

Applicants respectfully submit that in Arrington '176 there is disclosed a control facility 130 within a wireless communication system receives, from a communication unit 120 (CU), a power measurement 306 of a signal 150 projected by a transceiver node 102. The power measurement 306 can be associated with location information 304 for the CU 120 and a time stamp 302. The control facility 130 uses this information to determine whether the CU 120 is being provided with a signal 150 having an acceptable link margin. If not, the control facility mitigates (408, 508, 512, 514, 518, 520) the effects of the unacceptable link margin, if possible. When power measurements 306 are received from multiple CUs 120, the control facility 130 can use the measurements 306 to create (402, 502) a link margin map which correlates CU location 304 with power measurements 306. The map is used to analyze the link margins within the system.

Applicants respectfully submit that in Redden '087 there is disclosed a cellular telecommunication system comprised of low earth orbiting satellites featuring allocation of communication channels among users in cells. Each subscriber unit is programmed with an embedded class identifier. During periods when it is desirable to limit acquisition of a satellite to some restricted class or set of classes, such as periods of heavy use, the satellite broadcasts a list of inhibited class identifiers allowing only uninhibited classes access to the communication system. The method reduces thrashing by allowing access to users on a hierarchy class basis. The method uses both real time cell loading data and historical cell loading information based on previous experiences and can be programmed to limit access to emergency services in the case of natural disasters.

In Arrington at col. 5, lines 30-67, col. 6, lines 50-67 and col. 8, lines 1-15 there is a discussion of a flowchart for a method of a CU to report one or more signal power measurements and to respond to system commands in accordance with a preferred

embodiment of the invention. At col., 5, lines 41 et seq. of Arrington there is stated "Typically, a candidate cell is a cell within whose area a CU is located....In a preferred embodiment, the candidate cell list identifies the parameters defining a broadcast channel within each cell. For example, in a system which employed Time Division Multiple Access (TDMA) and/or Frequency Division Multiple Access (FDMA) communication protocols, the parameters defining a channel would be timeslot and/or frequency of the broadcast channel. Thus, to measure the power of the channel, the CU would identify, from the candidate cell list, the timeslot and frequency of the channel and would measure the power level of a signal received by the CU at the identified timeslot and/or frequency. In that manner, the CU could measure the power levels of each channel identified in the candidate call list." (Col. 5, lines 55 et seq.)

Further at col. 8, lines 1-15 "For example, where the power measurements indicate that the CU is experiencing an unacceptable link margin, but the system is unable to mitigate the effects of the link margin, the system respond could be a message to the CU that only degraded service can be provided to the CU at the current location."

In Redden at col. 15, lines 7-47 and col. 9, lines 35-55 there is disclosed "Fig. 7 illustrates acquisition procedure 100 performed by subscriber unit 26 each time when access to system 10 is desired. When a user desires to initiate a communication, the user may initiate a request for service 102. This may be accomplished by either switching on the subscriber unit or dialing a desired phone number.....

"If subscriber unit's class is one of the inhibited set of classes, task 116 determines if other antenna beams from satellite 12 are available. Task 116 may base the decision on the adequacy of the signal strength of other antenna beams.....If other antenna beams are available and can be received by subscriber unit 26, task 118 selects another available antenna beam from satellite 12. Tasks 108 through 120 are repeated for each available antenna beam."

At col. 9, lines 35-55 of Redden Applicants respectfully submit there is disclosed "The communication resource, (i.e. limited electromagnetic spectrum) can also be partitioned by the use of a hybrid combination of FDMA and TDMA known in the art as Code Division Multiplexing (CDM) or Code Division Multiple Access (CDMA).....

"Other techniques in the art for allocation of the communication resource include Space Diversity (SD) and Polarization Diversity (PD)."

Applicants respectfully submit that neither Arrington et al '176 nor Redden et al '087 at the recited passages or elsewhere teach a user terminal comprising a controller responsive to at least one criterion having been met for activating an indicator for informing a user of a potential for reduced user terminal performance. Arrington discloses a communication system accurately to determine and predict link margins within the system

by using communication units (CUs) rather than cellular base stations to perform power measurements and send those measurements to the control facility, as can be seen at col. 2, lines 59 et seq. Redden provides a method of controlling access of subscriber units to a communication system comprised of a plurality of nodes where each node of the plurality has at least one antenna beam associated therewith and each of the subscriber units has a user class associated therewith. The method therein comprises identifying a geographic area likely to exhibit overload during a planning interval calculating a proportion of the users in the geographic area desired to be blocked from accessing the communication system and forming a set of inhibited user classes to inhibit in the geographic area based on the proportion, as can be seen from col. 2, line 66 through col. 3, line 9.

Applicants respectfully submit that neither of these recitations relied upon by the Examiner in Arrington et al '176 or Redden et al '087 teach, suggest or imply the user terminal of element 4 of at least claim 1 wherein a controller is responsive to at least one criterion having been met for activating an indicator for informing a user of a potential for reduced user terminal performance. This limitation is also found in the other two remaining independent claims, 10 and 19, for which this argument is equally applicable.

Further, Applicants respectfully submit it is not at all apparent in Arrington, directed to a method and apparatus for controlling link quality in a wireless communication system, and Redden, directed to radio channel access control, each of which have been more specifically discussed above, which discussion is hereby incorporated by reference, are properly combinable with Maveddat and Rydbeck which are directed to a method for notification and call routing in a mobile satellite network; and transmitting and receiving a signaling message in a communication system, respectively, more fully described above, since Applicants respectfully contend that there no where appears in any of the references a motivation to combine said references other than Applicants' own disclosure.

Therefore, Applicants do not agree that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Maveddat and Rydbeck and have several coverage satellite system where diversity transmission from the satellites such that the link margin is based on the diversity transmission and link outage report as taught by Arrington and Redden, thus allowing the reporting be done for mobiles in fading environments as contended by the Examiner.

Applicants gratefully acknowledge the indicated allowability of claims 7, 16 and 25 and have canceled said claims without prejudice and submitted newly drafted claims 32-34, which are claims 7, 16 and 25 written in independent form including all the limitations of the base claim and any intervening claims as suggested by the Examiner.

Applicants respectfully submit that in view of the above remarks and amendments all of the claims presently under prosecution have been shown to contain patentable



subject matter and to be patentably distinguishable over the prior art of record, Maveddat et al '073 in any improper combination with Rydbeck et al '718 and further in view of Arrington et al '176 and Redden et al '087 in any combination thereof. Accordingly, Applicants respectfully request that this application be reviewed and reconsidered in view of the above remarks and amendments and that a Notice of Allowance be issued at an early date.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "AW Karambelas", written over the typed name.

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